

What is claimed is:

1. A system for dynamically generating and processing a program by connecting a server computer and at least one of a client computer and a data processing server computer via a network means, sending and receiving data therebetween, and executing a desired voluntary data processing process by dynamically generating and then processing at least one unit-program for data processing, said system comprising:

a functional module storage means for storing a plurality of functional module classes, wherein each of said functional module classes has a coded processing logic for processing at least a portion of the unit-program;

a configuration information storage means for storing a plurality of configuration information including at least request information to read out at least one of the functional module classes and a processing condition;

a definition information input means for inputting at least one definition information to declare the contents of a data processing process to be executed;

a configuration information read-out means for reading out at least one of the configuration information corresponding to said at least one of the definition information from said

configuration information storage means;

a unit-program generating means for reading out at least one of the functional module classes corresponding to said at least one of the configuration information from said functional module storage means, wherein said unit-program generating means dynamically generates a unit-program by using the coded processing logic from said functional module classes; and

a unit-program processing means for dynamically executing said unit-program by using said processing condition included in said configuration information.

2. A system as defined in claim 1, further comprising a configuration information request means for requesting at least one of the configuration information for executing the data processing,

said configuration information storage means for storing the configuration information corresponding to the data processing to be executed, wherein said configuration information have been used for generating the data of the unit-program,

said configuration information read-out means reads out the configuration information from said configuration information storage means based on the request from said configuration information request means.

3. A system for dynamically generating and processing a program by connecting a server computer and a client computer via a network means, sending and receiving data therebetween, and
5 executing the desired voluntary data processing process by dynamically generating and processing at least one unit-program for data processing, said system comprising:

10 a functional module storage means for storing a plurality of functional module classes, wherein each of said functional module classes comprises a coded processing logic for processing at least a portion of the unit-program;

15 a configuration information storage means for storing a plurality of configuration information corresponding to each of a plurality of data processing processes, wherein said configuration information includes at least request information to read out at least one of the functional module classes and a processing condition;

20 a configuration information request means for requesting at least one of the configuration information for executing the data processing process;

a configuration information read-out means for reading out at least one of the configuration information from said configuration information storage means corresponding to said

request from the configuration information request means;

a unit-program generating means for reading out at least one of the functional module classes corresponding to said at least one of the configuration information from said functional module storage means, wherein said unit-program generating means dynamically generates a unit-program by using the coded processing logic from said functional module classes; and

a unit-program processing means for dynamically executing said unit-program based on said processing condition included in said configuration information.

4. A system as defined in claim 1, wherein said configuration information storage means stores at least one functional module class having a coded processing logic for handling at least one of a variable data and a parameter,

said definition information input means inputs at least one of definition information to declare the contents of the data processing process and at least one of the variable data and the parameter,

said configuration information read-out means reads out at least one of the configuration information from said configuration information storage means corresponding to said at least one of the definition information and the request from said

configuration information request means, and

said unit-program generating means reads out at least one of the functional module classes including at least one functional module class from said functional module storage means

5 corresponding to said at least one of the configuration information,

wherein the unit-program generating means dynamically generates the unit-program by using both the coded processing logic from said functional module classes and said at least one of the variable data and the parameter included in the configuration information.

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5. A system as defined in claim 1, wherein said server computer comprises said configuration information storage means and said configuration information read-out means, said client computer comprises said functional module storage means, said unit-program generating means and said unit-program processing means.

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6. A system as defined in claim 5, wherein said client computer further comprises said configuration information request means.

7. A system as defined in claim 5, wherein said server
computer further comprises said functional module storage means,
said unit-program generating means, said unit-program processing
means and a processing result output means which returns a
5 processing result of the unit-program to at least one of the
client computer, the server computer and the data processing
server computer.

10 8. A system as defined in claim 1, wherein said data
processing server computer comprises said functional module
storage means, said unit-program generating means and said unit-
program processing means.

15 9. A system as defined in claim 1, wherein said definition
information includes information relating to a combination of the
functional module classes and a processing order of the
functional module classes for executing the data processing
process.

20 10. A client computer in a system for dynamically
generating and processing a program by connecting to a server
computer via a network means, sending and receiving data
therebetween, and executing a desired voluntary data processing

process by dynamically generating and processing at least one unit-program for a data processing process, said client computer comprising:

10 a functional module storage means for storing a plurality of functional module classes, wherein each of said functional module classes comprises a coded processing logic for processing at least a portion of the unit-program;

15 a definition information input means for inputting at least one definition information to declare the contents of a data processing process to be executed;

20 a unit-program generating means for reading out at least one of said functional module classes corresponding to at least one of the configuration information from said functional module storage means when said at least one of the configuration information including at least request information to read out at least one of said functional module classes and a processing condition are sent from the server computer, and then generating a unit-program by using the coded processing logic from said functional module classes; and

25 a unit-program processing means for dynamically executing said unit-program based on said processing condition included in said configuration information.

11. A client computer as defined in claim 10, wherein said server computer stores the configuration information used to generate the unit program corresponding to the data processing to be executed, said client computer further comprises a
5 configuration information request means for requesting at least one of the configuration information corresponding to the data processing to be executed.

12. A client computer in a system for dynamically generating and processing a program by connecting to a server computer via a network means, sending and receiving data therebetween, and executing a desired voluntary data processing process by dynamically generating and processing at least one unit-program for data processing, said client computer comprising:

a functional module storage means for storing a plurality of functional module classes, wherein each of said functional module classes comprises a coded processing logic for processing at least a portion of the unit-program;

20 a configuration information request means for requesting configuration information to be sent to the client computer corresponding to the data processing to be executed;

a unit-program generating means for reading out at least one

of said functional module classes corresponding to at least one of the configuration information from said functional module storage means when said configuration information including at least read-out information of said functional module class and a processing condition are sent from said server computer based on said request, and then generating the unit-program by using the coded processing logic from said functional module classes; and

a unit-program processing means for dynamically executing said unit-program based on said processing condition included in said configuration information.

13. A client computer as defined in claim 10, wherein said functional module storage means stores at least one functional module class having the coded processing logic for handling at least one of a variable data and a parameter,

said definition information input means inputs at least one of definition information to declare the contents of a data processing process to be executed and at least one of the variable data and the parameter, and

said unit-program generating means reads out at least one of said functional module classes including at least one functional module class for handling at least one of the variable data and the parameter corresponding to said at least one of the

configuration information from said functional module storage means when said configuration information including at least information relating to the at least one functional module class based on said definition information or said request for sending the configuration information are sent from the server computer, and dynamically generating the unit-program by using both of the coded processing logic from said at least one functional module class and said at least one of the variable data and the parameter included in the configuration information.

14. A server computer in a system for dynamically generating and processing a program by connecting to at least one of a client computer and a data processing server computer via a network means, sending and receiving data therebetween, and making at least one of the client computer and the data processing server computer execute a desired voluntary data processing process by dynamically generating and processing at least one unit-program for data processing, said server computer comprising:

a configuration information storage means for storing a plurality of configuration information including at least request information to read out at least one functional module class and a processing condition, wherein each of the functional module

classes comprises a coded processing logic for processing at least a portion of the unit-program; and

a configuration information read-out means for reading out at least one of the configuration information corresponding to at least one definition information from said configuration information storage means when said definition information declares the contents of a data processing process to be executed is sent from the client computer, sending and providing said read-out configuration information to at least one of the client computer and the data processing server computer,

whereby at least one of the client computer and the data processing server computer dynamically generates and processes at least one unit-program based on the processing condition included in the configuration information.

15. A server computer as defined in claim 14, wherein said configuration information storage means stores at least one of the configuration information which is used for generating said unit-program, corresponding to the data processing, and

said configuration information read-out means reads out at least one of the configuration information corresponding to said request for the configuration information sent from said client computer.

16. A server computer in a system for dynamically
generating and processing a program by connecting to at least one
of a client computer and a data processing server computer via a
5 network means, sending and receiving data therebetween, and
making at least one of the client computer and the data
processing server computer execute a desired voluntary data
processing process by dynamically generating and processing at
least one unit-program for data processing, said server computer
10 comprising:

a configuration information read-out means for reading out
at least one of configuration information corresponding to a
request which corresponds to a data processing to be executed
from a configuration information storage means when said request
15 to read out the configuration information is sent from the client
computer, sending and providing said read-out configuration
information to at least one of the client computer and the data
processing server computer,

whereby at least one of the client computer and the data
20 processing server computer dynamically generates and processes
said unit-program based on a processing condition included in the
configuration information.

17. A server computer as defined in claim 14, wherein said server computer further comprises:

a configuration information storage means for storing a plurality of configuration information coding the coded

5 processing logic for processing at least a portion of the unit-program;

a unit-program generating means for reading out at least one of said functional module classes corresponding to the definition information from said functional module storage means when said definition information for declaring the contents of the data processing process to be executed are sent from said client computer, wherein said unit-program generating means dynamically generates the unit-program by using the coded processing logic from said functional module classes;

a unit-program processing means for dynamically executing said unit-program based on the processing condition included in said configuration information; and

a processing result output means for returning a processing result of the unit-program to at least one of the client computer
20 and the data processing server computer.

18. A method for dynamically generating and processing a program by connecting a server computer and at least one of a

client computer and a data processing server computer via a network means, sending and receiving data therebetween, and executing a desired voluntary data processing process by dynamically generating and processing at least one unit-program
5 for data processing in at least one of the client computer and the data processing server computer, said method comprising the steps of:

storing a plurality of functional module classes into a functional module storage means and storing a plurality of configuration information into a configuration information storage means, wherein each of said functional module classes comprises a coded processing logic for processing at least a portion of a unit-program processing and said configuration information includes at least request information to read out at least one of the functional module classes and a processing condition;

inputting at least one definition information to declare the contents of a data processing to be executed via a definition information input means;

20 reading out at least one of the configuration information corresponding to said at least one of the definition information from said configuration information storage means via a configuration information read-out means;

reading out at least one of the functional module classes
corresponding to said at least one of the configuration
information from said functional module storage means via a unit-
program generating means, and dynamically generating the unit-
5 program processing by using the coded processing logic from said
functional module classes via said unit-program generating means;
and

10 dynamically executing said unit-program of the data
processing based on the processing condition included in said
configuration information via a unit-program processing means.

19. A method as defined in claim 18, wherein said method
further comprises the steps of:

15 storing the configuration information corresponding to the
data processing to be executed into said configuration
information storage means wherein said configuration information
is used for generating the data of the unit-program,

requesting at least one of the configuration information for
executing the data processing via a configuration information
20 request means, and

reading out the configuration information from said
configuration information storage means based on the request of
said configuration information request means via the

configuration information read-out means.

20. A method for dynamically generating and processing a program by connecting a server computer and at least one of a client computer and a data processing server computer via a network means, sending and receiving data therebetween, and executing a desired voluntary data processing process by dynamically generating and processing at least one unit-program for data processing in at least one of the client computer and the data processing server computer, said method comprising the steps of:

storing a plurality of functional module classes into a functional module storage means and storing a plurality of configuration information into a configuration information storage means, wherein each of said functional module classes comprises a coded processing logic for processing at least a portion of a unit-program and said configuration information includes at least request information to read out at least one of said functional module classes and a processing condition;

sending the configuration information corresponding to contents of a data processing to be executed via a configuration information request means;

reading out at least one of the configuration information

corresponding to said request from said configuration information storage means via a configuration information read-out means;

reading out at least one of said functional module classes corresponding to said at least one of configuration information from said functional module storage means via a unit-program generating means, and dynamically generating the unit-program processing by using the coded processing logic of said functional module classes via said unit-program generating means; and

dynamically executing said unit-program processing based on the processing condition included in said configuration information via a unit-program processing means.

21. A computer-readable and -recordable media for controlling at least one of a client computer and a data processing server computer comprising a system for dynamically generating and processing a program by connecting a server computer and at least one of the client computer and the data processing server computer via a network means, sending and receiving data therebetween, and executing a desired voluntary data processing process by dynamically generating and processing at least one unit-program for data processing in at least one of the client computer and the data processing server computer, said media comprising:

a controlling program for storing a plurality of functional module classes having a coded processing logic;

a controlling program for reading out at least one of said functional module classes and for dynamically generating a unit-program processing by using the coded processing logic of said functional module classes; and

a controlling program for dynamically executing said unit-program processing based on a processing condition included in said configuration information.

22. A computer-readable and -recordable media for controlling at least one of a client computer and a data processing server computer comprising a system for dynamically generating and processing a program by connecting a server computer and at least one of the client computer and the data processing server computer via a network means, sending and receiving data therebetween, and executing a desired voluntary data processing process by dynamically generating and processing at least one unit-program for data processing in at least one of the client computer and the data processing server computer, said recordable media comprising:

a controlling program for storing a plurality of configuration information including at least one functional

module read-out information and a processing condition, wherein a plurality of functional module classes code a logic of a data processing process to be executed;

10 a controlling program for reading out the configuration
5 information and for sending the read-out configuration
information to at least one of the client computer and the data
processing server computer when definition information to declare
the contents of the data processing process to be executed is
sent from the client computer;

15 a controlling program for storing the configuration
information including a read-out information for reading out said
functional module classes that code the logic of the data
processing; and

20 a controlling program for reading out the configuration
information and for sending the read-out configuration
information to at least one of the client computer and the data
processing server computer when the definition information to
declare the contents of the data processing process to be
executed are sent from the client computer.

23. A computer-readable and -recordable media as defined in
claim 22, wherein said media further comprises a controlling
program for storing at least one of configuration information

corresponding to the data processing to be executed, said
configuration information is used for generating a unit-program
processing, and a controlling program for reading out at least
one of the configuration information based on request information
5 for reading out the configuration information corresponding to
the data processing to be executed when said request is sent from
the client computer.

24. A computer-readable and -recordable media for
controlling at least one of a client computer and a data
processing server computer comprising a system for dynamically
generating and processing a program by connecting a server
computer and at least one of the client computer and the data
processing server computer via a network means, sending and
receiving data therebetween, and executing a desired voluntary
data processing process by dynamically generating and processing
at least one unit-program for data processing in at least one of
the client computer and the data processing server computer, said
media comprising:

20 a controlling program for storing a plurality of functional
module classes having a coded process logic;

a controlling program for outputting a request of the
configuration information corresponding to a data processing to

be executed;

a controlling program for reading out at least one of said functional module classes and for dynamically generating a unit-program processing by using the coded processing logic of said functional module classes when the configuration information including at least functional module read-out information and a processing condition are sent from said server computer; and

a controlling program for dynamically executing said unit-program of data processing based on the processing condition included in said configuration information.

25. A computer-readable and -recordable media for controlling a server computer comprising a system for dynamically generating and processing a program by connecting a server computer and at least one of the client computer and the data processing server computer via a network means, sending and receiving data therebetween, and executing a desired voluntary data processing process by dynamically generating and processing at least one unit-program for data processing in at least one of the client computer and the data processing server computer, said media comprising:

a controlling program for storing configuration information including at least functional module read-out information

corresponding to a data processing and a processing condition,
wherein a plurality of functional module classes code a logic of
the data processing; and

a controlling program for reading out the configuration
5 information and for sending the read-out configuration
information to at least one of the client computer and the data
processing server computer when a request for the configuration
information corresponding to the data processing to be executed
are sent from the client computer.

10 26. A program transfer system for transferring and
downloading a controlling program to at least one of a client
computer and a data processing server computer comprising a
system for dynamically generating and processing a program by
15 connecting a server computer and at least one of the client
computer and the data processing server computer via a network
means, sending and receiving data therebetween, and executing a
desired voluntary data processing process, said program transfer
system comprising:

20 a program storage means for storing a controlling program
for storing a plurality of functional module classes having a
coded processing logic, a controlling program for reading out at
least one of said functional module classes when definition

information is provided to the server computer and the configuration information including at least functional module read-out information to declare the contents of a data processing process to be executed and a processing condition are sent from
5 the server computer, and for dynamically generating a unit-program processing by using the coded processing logic of said functional module classes, and a controlling program for dynamically executing said unit-program of data processing based on the processing condition included in said configuration information;

10 a program read-out means for reading out the controlling program from said program storage means based on a request from at least one of the client computer and the data processing server computer; and

15 a transfer means for transferring said read-out controlling program to at least one of the client computer and the data processing server computer.

20 27. A program transfer system as defined in claim 26, wherein said program storage means stores a controlling program which stores at least one of the configuration information corresponding to the data processing to be executed, said configuration information is used for generating the unit-program

processing, and reads out at least one of the configuration information based on a request for reading out the configuration information corresponding to the data processing to be executed when said request is sent from the client computer.

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28. A program transfer system for transferring and downloading a controlling program to at least one of a client computer and a data processing server computer comprising a system for dynamically generating and processing a program by connecting a server computer and at least one of the client computer and the data processing server computer via a network means, sending and receiving data therebetween, and executing a desired voluntary data processing process, said program transfer system comprising:

a program storage means for storing a controlling program for storing a plurality of functional module classes having a coded processing logic, a controlling program for outputting a request for at least one of configuration information corresponding to a data processing to be executed, a controlling program for reading out at least one of said functional module classes when the configuration information including at least functional module read-out information and a processing condition are sent from the server computer and for dynamically generating

a unit-program processing by using the coded processing logic of said functional module classes, and a controlling program for dynamically executing said unit-program processing based on the processing condition included in said configuration information;

5 a program read-out means for reading out the controlling program from said program storage means based on a request from at least one of the client computer and the data processing server computer; and

10 a transfer means for transferring said read-out controlling program to at least one of the client computer and the data processing server computer via the network means.

15 29. A program transfer system as defined in claim 26, wherein said server computer comprises said program storage means, said program read-out means and said transfer means.